



Diagramming an EIA process

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Abstract

The nodes and edges of process diagrams can be assigned information such as tasks or states, and each combination provides distinct perspectives. An example from environmental impact assessment (EIA) explores and illustrates some key arrangements.

1 Introduction

The nodes and edges of concise process diagrams (CPD) are equally apt to represent either *action* or *states* (Perdicóúlis, 2010, 2011). Extended process diagrams (EPD) add more resolution to the process, for instance providing details about the state of each element or how to execute each task (Perdicóúlis, 2013a), but the information remains the same: action and states. Personalised process diagrams (PPD) explicitly introduce a third element to process diagrams: the actors (Perdicóúlis, 2013b). Three elements create more arrangement options, and this is when a *decision* is required: ‘what is the best configuration for my process diagram?’

Let us explore several configuration options in process diagramming with a case study from Portugal, when in 2013 the process of environmental impact assessment (EIA) was altered in the national legislation (MAMAOT, 2013). The diagramming exercise can be of direct value to anyone wishing to represent or visualise the EIA process (e.g. students, practitioners, public administration, project proponents), or any other process of the same complexity, helping them to decide which configuration is most suitable for their particular needs.

As an overview, § 2 has a state-centred configuration, with the nodes as documents (i.e. the special-interest ‘states’ in this kind of process), while § 3 has an action-centred configuration, with the nodes as actions. § 4 opts for an actor-centred configuration, with the nodes as the actors of the process, in two variants: with the details of the process (e.g. timings and references) attributed either to the nodes or to the edges.

The process diagrams in this case study also experiment with a delightful but still controversial aspect of graphic representation, the use of colour, to provide a quick visual cue to identify the nodes (‘cold’ colours) and the edges (‘warm’ colours). Although helpful in screen visualisation and colour prints, colour-coded semantics are not compatible with grayscale printing — *caveat emptor*.

2 Document-centred diagrams

Figure 1 puts all the *documents* of the process on the nodes, and the action on the edges. Important references (e.g. legal) and specifications (e.g. how to carry out the action) or comments, as well as the identification of the actor, are associated with both the actions and the documents.

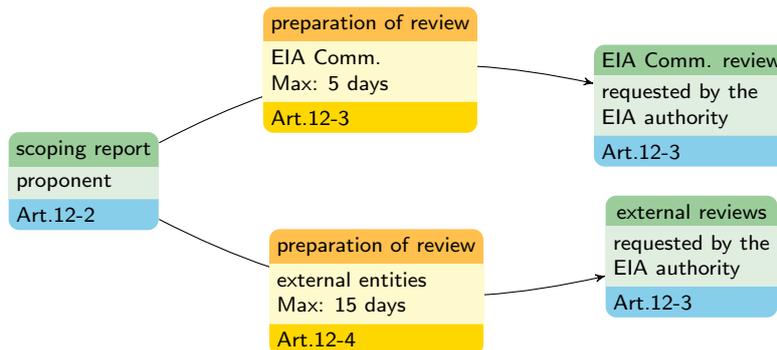


FIGURE 1 Document-centred model: documents on the nodes, action on the edges — extract from MAMAOT (2013)

3 Action-centred diagrams

Figure 2 puts all the *action* of the process on the nodes, and the documents on the edges. The actors are placed together with the respective actions, on the nodes.

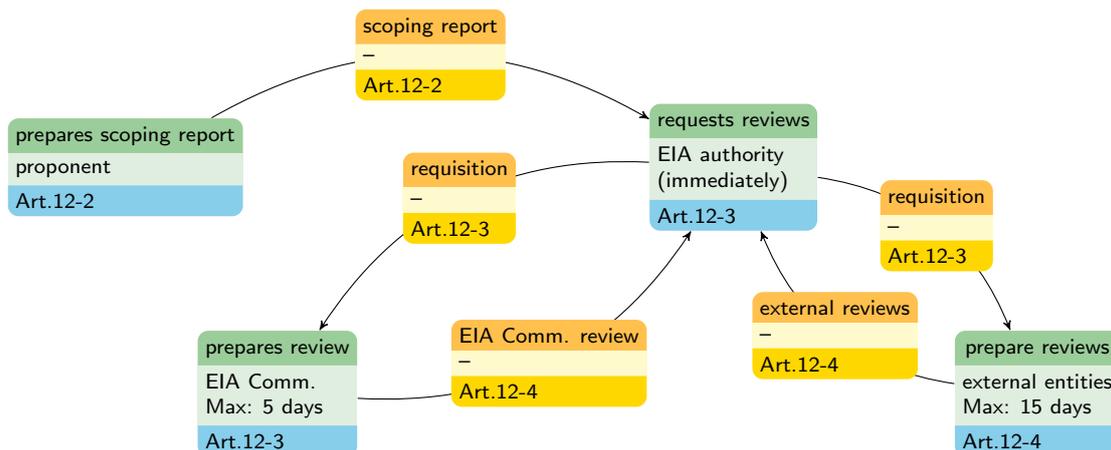


FIGURE 2 Action-centred model: action on the nodes, documents (stages) on the edges — extract from MAMAOT (2013)

4 Actor-centred diagrams

Figures 3 and 4 place the *actors* on the nodes. Details are located either in the nodes, together with the actors (Figure 3), or on the edges (Figure 4).

4.1 Information on the nodes

In this case, *all* the information is located in the nodes. Thus, the edges remain ‘clean’.

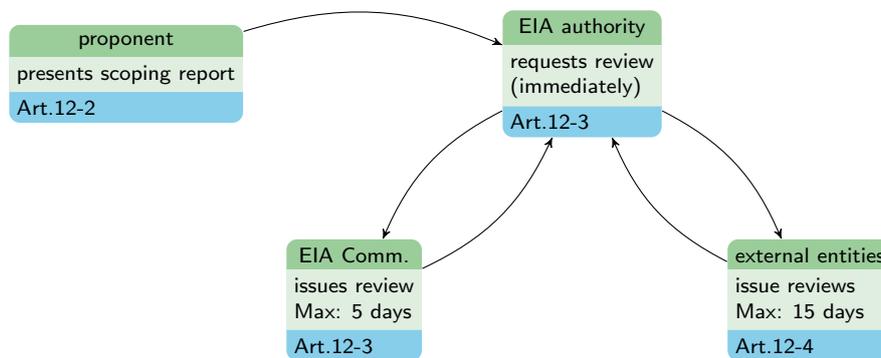


FIGURE 3 Actor-centred model with information on the nodes — extract from MAMAOT (2013)

4.2 Information on the edges

In this case, the action and the documents are presented together on the edges, while the actors remain free of any additional information.

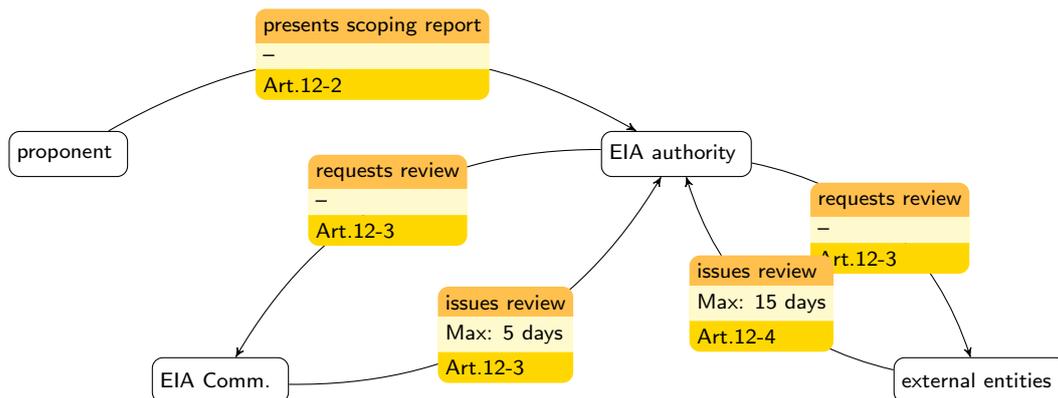


FIGURE 4 Actor-centred model with information on the edges — extract from MAMAOT (2013)

5 Discussion

Diagrams with multiple interactions between actors (e.g. Figure 4) or heavily marked edges (e.g. Figure 2) may turn complicated, to the extent that the space around the nodes is not enough to accommodate all the information. Before discarding such configurations as ‘inappropriate’, space-optimisation software such as *GrapViz* or *OmniGraffle* may provide good help to resolve the technical challenges.

Some configurations present the information in more detail than others, and consequently some diagrams are more extensive (e.g. Figure 2) than others (e.g. Figure 1). It may be argued that each one of the four diagrams is interesting and useful in its own way, and that they all present complementary information, so it may be deemed desirable to transform one format to another; however, this is no trivial task for common diagramming software.

6 Conclusion

The four equivalent diagrams present the same sample of the EIA process in alternative configurations, giving emphasis on documents, actions, or the actors involved. This exercise merely explores and displays the alternative forms, while the choice for the ‘most appropriate’ configuration should depend on preferences or needs stated by the end-users.

References

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